

Brain Tumors

By Dr. Karen Becker

Hi, I'm Dr. Karen Becker. Today, we're going to discuss brain tumors. Brain cancer is unfortunately a relatively common disease in older pets. Brain tumors in animals vary a great deal in terms of their level of malignancy, and some can be treated effectively. Tumors originating from the membranes covering the brain, which are called meningiomas, are seen more often in dogs with long heads and noses like the collie. Brachycephalic breeds, with their short noses and flat faces, more oftentimes develop pituitary tumors. Brain tumors are more common in dogs than cats, especially dogs over five years of age. Predisposed breeds include the boxer, Boston terrier, and golden retriever.

A tumor, of course, is an abnormal growth of cells, and is classified as either primary or secondary. A primary brain tumor means the cancer originated there, within the cells of the brain or its membranes. Types of primary brain tumors include meningioma, glioma, choroid plexus tumors, papillomas, and pituitary adenoma or adenocarcinoma which cancerous versus the benign adenoma. A secondary brain tumor is either cancer that has metastasized to the brain from a primary tumor somewhere else in the animal's body, or it's a tumor affecting the brain by extending into brain tissue from a nearby, non-nervous system location, such as a bone.

Examples of tumors that may spread to the brain include hemangiosarcoma, mammary carcinoma, and melanoma. Unfortunately, these tumors have a very poor prognosis because they've already spread through the body so the cancer is in more than one location.

Symptoms and Diagnosis

Symptoms of a brain tumor arise from the mass, either compressing or invading the brain, and depend on what area is affected. Brain tumors typically cause progressive signs in older animals. Usually, it starts up mild, and then the symptoms progress, but not always. Symptoms can be quite sudden, like an older animal can just start having seizures, or they can be incredibly subtle. They can also wax and wane in severity.

If the tumor is affecting the forebrain, which is the area responsible for thought and behavior, symptoms can include behavioral changes, an increase or decrease in thirst or hunger, constant pacing or circling, decreased awareness and vision on one side of the body, pain or head pressing, and of course, seizures.

In fact, the sudden onset of seizures is the most common symptom of the presence of a tumor of the forebrain, and is certainly what I see as the most common, in terms of symptoms, in clinical practice. If the tumor is affecting the brainstem, the animal's ability to walk, mental alertness, and respiratory and cardiovascular systems can all be impacted. The most common symptoms of a brainstem tumor are oftentimes loss of balance and weakness on one side of the body.

There can also be head tilting, drunken gait or staggering, circling, difficulty swallowing, loss of appetite, and vomiting. As well as change in your animal's bark or voice, inability to move the eyes, or paralysis in the parts of the body. Needless to say, some animals can go into a coma and obviously, death can occur. A tumor of the cerebellum, which controls coordination of movements, can have symptoms including

uncoordinated gait, head tremors, and swaying of the trunk. So when an animal that's standing still but just swaying and doesn't know that he or she is swaying.

Generally speaking, any pet over five years of age who presents with a new onset of neurologic symptoms should be suspected for a brain tumor. Diagnosis will include a complete physical and neurologic exam, routine blood work, chest and abdominal X-rays to check for the spread or focal location of cancer. Since most soft tissue brain tumors can't be seen on X-rays of the skull, it is necessary to do a magnetic resonance imaging (MRI) or computerized tomography (CT) scan of the brain. Most neurologists prefer MRIs.

The type of tumor can often be determined from its appearance on CT or MRI images, but the mass can only be definitively diagnosed by taking a sample, either during surgery to remove it or with a biopsy, which can prove to be a problem, as many tumors lie very deep within the skull, and are not amenable to surgical removal.

Treatment

The traditional treatment for brain tumors in dogs and cats includes everything you know to be true: surgery, radiation therapy, chemotherapy, and palliative treatment of symptoms. The aim of surgery, which is the best option, is to hopefully completely remove the tumor, but sadly, this is rarely the outcome. Meningiomas tend to develop on the surface of the brain, and are the best candidates for surgical removal. Gliomas are found usually deep within the brain and are much more difficult, if not impossible to surgically remove. If surgery is possible, it's a very useful tool to alleviate the animal's symptoms by decompressing the brain.

Radiation therapy can slow the progression of most types of brain tumors in pets. But in order to have this therapy safely, the animal must be healthy enough to undergo general anesthesia for each dose of radiation. Chemotherapy isn't a common choice of treatment for brain tumors, because the blood-brain barrier can oftentimes limit the effectiveness of the drugs. Chemotherapeutic agents can have devastating side effects, as you all know, especially on the liver and bone marrow, and must be closely monitored during treatment if you're choosing that option. As a side note, I don't recommend, personally, chemotherapy for my patients, at all, dealing with any type of brain tumor.

The real goal of palliative treatment for a brain tumor is to alleviate any animal's symptoms. For example, if your dog or cat is seizing or has fluid accumulation in their brain, the goal is to reduce those. In most pets, brain tumors can be treated but not cured. I see dozens of patients a year for adjunctive therapy for brain tumors. I strongly recommend you connect with an integrative or natural veterinarian who can provide additional, all natural therapies to reduce pain and inflammation. Sometimes, we can actually slow tumor growth, and certainly, we have lots of options we can suggest to you for improving your pet's quality of life.

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